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Marketing Research Report

A Case Study of Food Dating in Selected Chicago Supermarkets

ECONOMIC RESEARCH SERVICE ▪ U.S. DEPARTMENT OF AGRICULTURE

ABSTRACT

This report summarizes the findings of a USDA case study of a Chicago grocery chain's food dating program in low-, middle-, and higher income area stores in Chicago, Ill. Slightly more than half the 1,700 female shoppers contacted indicated their awareness of the program, but only 20 percent correctly interpreted open dates as the pull date, or the last day a product can be sold. About two-thirds of those aware of the program and willing to be questioned in greater detail said they had used dates at least once. Bread and milk were items most frequently mentioned, followed by refrigerated dough products, other dairy products, and eggs. Store managers reported beneficial in-store effects--specifically, easier stock rotation. They reported the program was helpful to customers, and generally saw no disadvantages of open dating.

KEY WORDS: Food Product Codes, Open Dating, Product Dating, Pull Dates.

PREFACE

In early 1971, the Economic Research Service (ERS), U.S. Department of Agriculture (USDA), conducted a case study of the food dating program of a Chicago grocery chain to determine shopper reactions to the program and in-store effects.

The study was part of a research program begun by ERS in July 1970 to review information about food stability and food product dating, and to examine possible dating methods and their implications for processors, retailers, and consumers. ERS developed the program in response to a Congressional request for information on the feasibility of food product dating. Several bills were introduced in both the 91st and 92d Congresses to amend the 1966 Fair Packaging and Labeling Act to require date labels on packaged perishable foods. These labels would specify the last date the food item may be offered for sale.

Although the findings presented in this report provide information on only one food dating program, they answer some questions on consumer understanding and use of date information, and discuss the effect of open dating on a retail food store chain. Other questions regarding the need for and feasibility of open dating still are not answered.

The Statistical Reporting Service assisted in the design of both the questionnaire used in the study and the sample selection. Consumer interviews were conducted by the Barlow Survey Service, Chicago, Ill. Staff members of the Jewel Food Stores cooperated by providing pertinent information on store locations and items stocked. Selection of Jewel for the survey does not constitute an endorsement of its program by the USDA.

The survey was conducted under the general supervision of Rosalind C. Lifquist, Consumer Economics Specialist, and special help was given by Rita B. Witten, Consumer Research Assistant.

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HIGHLIGHTS

In a USDA survey, a majority of female shoppers did not understand open dating of food, despite their apparent awareness and use of the dates. The survey also revealed that both shoppers and store managers considered open dating to be advantageous.

The findings are based on a 3-month case study by ERS of a freshness code (open dating) program of a Chicago grocery chain. The program includes both readable dates on about 150 private brand items and a code book available at the service desk in each store to assist shoppers in understanding codes on noncompany products. In the spring of 1971, 1,700 female shoppers at 18 sample stores in low-, middle-, and higher income areas in Chicago, Ill., were interviewed to determine consumer reaction to the open dating program.

Slightly more than half the shoppers said they were aware of the program, and nearly two-thirds of the 429 interviewed in depth reported they had used the dates at least once. Bread and milk were most frequently mentioned, followed by refrigerated dough products, other dairy products, and eggs.

Shoppers' interpretations of dates varied widely. All dates on the 150 items refer to the last day the product can be sold (pull date), but only 20 percent of those interviewed in depth correctly interpreted the date as when the product must be removed from sale. The most frequent answer given was that the date tells about the freshness of the item. About 45 percent identified open dating as representing a past date--for example, date of packaging or delivery--instead of a future date--the last permissible day of sale. Almost half gave no appropriate answers. Customers' lack of interest in the precise meaning of dates or codes is confirmed by the finding that only 2 percent of those interviewed in depth had used the code book.

Interest in assurance of product freshness was apparent when shoppers were asked for their opinions of the program. More than half cited product freshness as an advantage of open dating. The only other advantage mentioned with any frequency (12 percent) was that the system prevents stores from selling stale or spoiled food. About 79 percent saw no disadvantages, but about 10 percent mentioned that manpower costs and possible product loss resulting from open dating could cause higher prices.

In-store effects of the dating program were generally favorable, with many store managers indicating that open dates were as helpful to them as to their customers. More than half cited stock rotation as an advantage. Some had been initially concerned that shoppers would sort through displays and buy selectively on the basis of the date, but most said this problem had not materialized. From the shoppers' standpoint, two-thirds of the managers believed that customers' knowledge of product freshness and their resultant confidence in the store were the most important advantages of open dating. Most managers saw no disadvantages for customers, although some expressed concern that shoppers did not understand the meaning of the dates.

A CASE STUDY OF FOOD DATING IN SELECTED CHICAGO SUPERMARKETS

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INTRODUCTION

The practice of code dating packaged food items is not new. The food industry has coded products for many years, and nearly all packaged food items sold in grocery stores today have a code date on them. These codes are set up by individual processors, and usually contain production information, including a date. Many give product and ingredient identity; for example, they may indicate the plant--even the day and shift--where the item was produced. The date of final packaging, sometimes accompanied by an indication of shelf life, or the last day of sale, might also be included in a code.

In establishing coding, the food industry was primarily concerned with providing a tool for inventory and quality control. For example, codes made it possible for food processors to trace product movement, to identify and handle customer complaints, to rotate stock, and to identify product lots in the event of recall. Today, in addition to these functions, the food industry has been asked to provide consumers with clearly identified information on shelf and home storage life. Some food companies and chain stores are instituting open dating to give consumers readable information on product freshness.

As part of its research program on food
initiated in 1970, ERS selected a speci
case study of a Chicago grocery chain's
early 1971. The food chain had introdu
when it began to mark clear, readable
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in newspaper ads which explained the l
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1/ Freshness code program and fre
in this report to refer to the open da

purchased on the "pull" date. In addition, the availability of a code book at the service desk in each store was publicized. This book was intended to help shoppers interpret codes on products other than those sold under the chain's private labels. Material explaining the meaning of the open dates on various items was also available at the shelf displays of the particular foods.

At the time of the ERS study, over 150 private-brand items (see appendix A), including, for example, dairy products, coffee, and cake mixes, and all fresh meat and poultry had readable dates on them. Nearly all products in the program were stamped with a three-letter, two-digit date (for example, Nov. 21), representing the last day the product can be offered for sale. Fluid milk was the only exception among foods included in the dating program. Because local health department policies on permissible shelf life of milk differ in Chicago and suburban jurisdictions, a four-digit code was stamped and inked on the gable of each milk carton. The two center digits of the code represent the last day of sale in Chicago; the other two, the last day in suburban areas. For instance, if the code is 2235, the 23rd of the month is the last day of sale in the city; the 25th would be the last day of sale in the suburbs. In each store, large placards explaining how to read codes were displayed in close proximity to the milk case.

METHODOLOGY

The study focused on two aspects of the dating program: Shopper reactions to and in-store effects of freshness codes. On the basis of company-furnished information--such as store locations and area demographics, food items stocked, and dating and coding systems used--the USDA survey team selected 18 supermarkets of the food chain in Chicago, Ill., six each in low-, middle-, and higher income neighborhoods.

To complete the consumer phase of the study, USDA engaged a private firm to conduct questionnaire-type interviews (appendix B) with female shoppers to determine their awareness and use of the dating program. The conduct of these interviews at various times of the day, Monday through Sunday, during late March and early April 1971 made it possible to contact a variety of shoppers. The use of a mobile research van parked close to the store also helped to secure more interviews.

Interviewers were required to screen up to 125 potential respondents to find 25 shoppers who were aware of the freshness code program. To obtain a more accurate picture of how knowledgeable these shoppers were of freshness codes, each was asked if she were aware of several consumer information programs of the grocery chain. Shoppers who indicated familiarity with the food dating program were then asked to cooperate in a more detailed interview to determine whether they had used date information, products for which they had used it, and what dates told them about each product. Of the 1,700 shoppers contacted, 429 who were aware of the program agreed to be interviewed in more detail.

To determine the in-store effects of the program, data in sample stores ere collected in the spring of 1971. Daily records were maintained of eliveries and withdrawals of 18 food items--both coded and open-dated--of arying degrees of perishability, and store managers submitted weekly abulations of these records.

In addition, a USDA staff member personally interviewed the managers of he 18 sample stores to determine their opinions on in-store effects and hopper reactions to the open dating program. Each manager was asked to give dvantages and disadvantages of the program from both his and his customers' oints of view, and to suggest improvements.

CHARACTERISTICS OF SAMPLE

To provide a brief sketch of the 429 female shoppers who agreed to participate in the survey, each respondent was asked a few questions about herself, her family, her annual income, and her food shopping habits (see table 1).

More than 90 percent of the shoppers interviewed, regardless of income area, regularly shopped the grocery chain, although the majority said they usually shopped at several stores. Nearly all had been shopping at the chain for more than a year, and about 70 percent for more than 5 years. Shoppers in middle-income neighborhoods (78 percent) were more likely to have shopped at the chain over 5 years than higher (73 percent) or low-income (57 percent) area shoppers.

About half of all shoppers lived within 5 blocks of the store in which they were interviewed. The proportion was highest (60 percent) among shoppers who were at low-income area stores and lowest (38 percent) in higher income neighborhoods. Twenty-eight percent of all shoppers traveled 1-5 miles to the store. Shoppers interviewed at higher income area stores were more likely to live that distance from the store than shoppers in the other two groups.

The age distribution of shoppers was about the same in all income areas, although a somewhat larger share of women under 25 were interviewed in low-income neighborhoods. About 4 out of 10 shoppers said they usually bought for three or four people, with the largest share giving this answer in middle-income neighborhoods. Shoppers in higher income neighborhoods most often mentioned two persons, while the largest share of women who usually shopped only for themselves was in low-income areas. The share of larger families remained the same (29 percent) in each income group.

Nearly three-fourths of those interviewed reported their yearly family income to be $12,000 or more. As might be expected, a fifth of those interviewed in low-income area stores had an annual income of less than $12,000. However, a third of those interviewed at the same group of stores said their income was over $20,000 a year. The mixed demographics of some of the neighborhoods or the practice of some shoppers traveling several blocks or more to shop at a particular store may account for the higher income figure.

Table 1.--Characteristics of respondents: Number and percentage of customers interviewed in depth, 18 food stores, three income areas, Chicago, Ill., spring 1971

Characteristics of shoppers	Number				Percent			
	Total	Income area			Total	Income area		
		Low	Middle	Higher		Low	Middle	Higher
Total shoppers	429	150	135	144	100	100	100	100
Age of customers:								
Under 25	36	21	6	9	8	14	4	6
25-34	97	32	34	31	23	21	25	22
35-44	96	27	36	33	23	18	27	23
45-54	100	34	30	36	23	23	22	25
55 and over	100	36	29	35	23	24	22	24
Number of people food purchased for:								
One	45	22	8	15	11	15	6	10
Two	92	30	25	37	21	20	18	26
Three to four	169	54	63	52	39	36	47	36
Five or more	123	44	39	40	29	29	29	28
Family income:								
Under $6,000	5	3	2	0	1	2	2	0
$6,000-$11,999	53	28	14	11	12	19	10	8
$12,000-$19,999	152	56	49	47	35	37	36	33
$20,000 and more	165	52	55	58	39	35	41	40
No reply	54	11	15	28	13	7	11	19
Employment status:								
Employed outside home	243	74	79	90	57	49	58	62
Not employed	186	76	56	54	43	51	42	38
Amount usually spent weekly for groceries:								
$20 or less	64	30	16	18	15	20	12	12
$21-$30	107	33	30	44	25	22	22	31
$31-$40	108	43	32	33	25	29	24	23
$41-$50	73	23	29	21	17	15	21	15
$51-$60	46	7	20	19	11	5	15	13
$61 or more	31	14	8	9	7	9	6	6

More than half the women interviewed were employed outside the home. Even in low-income areas where the share of working homemakers was smallest, 49 percent worked outside the home. In higher income areas, 62 percent were employed.

About half the shoppers said they spent $21-$40 a week for groceries. In low-income areas, 20 percent spent less than $21, compared with 12 percent in other areas. This amount may reflect the greater share of one-person households in the low-income area. Middle-income area shoppers had the largest grocery bills--42 percent of them spent over $40; 21 percent spent over $50.

FINDINGS

Shopper Reactions to the Freshness Code Program

To determine shopper reactions to the program, the survey team was interested in their awareness of the program, their understanding of freshness codes, how much use they made of these codes and of the code book available in each store, and what they considered to be advantages and disadvantages of the program.

Awareness of Program

More than 1,700 female shoppers were contacted, averaging 95 at each of the 18 sample stores. As previously noted, a maximum of 125 shoppers per store were interviewed briefly to determine if they were aware of the freshness code program and would cooperate in an in-depth interview.

More than half the shoppers contacted said they were aware of the program. The level of awareness was highest in middle-income neighborhoods (57 percent) and equal (50 percent) in low- and higher income neighborhoods. When shoppers were asked about other consumer information programs of the chain store, 44 percent reported they were aware of the unit pricing program, and 58 percent were knowledgeable of information provided on phosphate content of detergents. In each instance, awareness of the programs was somewhat higher among shoppers in middle-income neighborhoods. Shoppers who did not know about the freshness code program were less likely to be regular shoppers at the grocery chain than those who did; only 85 percent of the unaware group regularly shopped at the chain, compared with more than 90 percent of the aware group.

About half of those who indicated awareness of freshness codes agreed to be interviewed in more detail on their understanding and use of readable dates on food products.

At five of the 18 stores, fewer than 25 in-depth interviews were completed--although 125 shoppers were contacted. Three of these stores were located in middle- and two in higher income neighborhoods. Many of the women who refused to participate in the longer interview explained their need to be home before their children arrived from school.

Understanding of Freshness Codes

In-depth interviews were conducted with 429 customers who had indicated awareness of the freshness code program.2/ About one-third of the interviews were conducted in each income neighborhood. Each shopper was first asked to give her interpretation of the phrase, "Freshness codes--readable dates on products." About two-thirds of the shoppers gave one meaning; the remainder gave two or three different answers. For purposes of evaluation, if a shopper mentioned that the date indicates whether the product is fresh because it reveals the date the product was packaged, two answers were counted. To determine their understanding of codes, shoppers were counted who accurately described the program--that is, the date tells how long the retailer can offer the product for sale. Answers relating to shoppers' knowledge that the product is fresh were also considered appropriate.

More than half the shoppers gave at least one correct answer, and nearly two-thirds of those in middle-income neighborhoods gave one or two correct answers. Although shoppers in low-income neighborhoods were less likely to give a correct interpretation, 49 percent gave one or more appropriate answers.

Only 20 percent of all those interviewed specifically related readable dates to the last day the product could be sold. This percentage was consistent among income areas. In comparison, 27 percent reported that the date showed how long the item had been in the store--either when it was delivered or put on display. Almost one-fifth said the date reveals the age of the product (date of manufacture, date of packaging). These two groups of answers show that 45 percent believed the items carried a past date, whereas all items in the food dating program are marked with the last day of sale or "pull date"--a future date.

About a fifth of the shoppers said the date implied the end of the product's usable life (often referred to as an expiration date). While this interpretation does represent a future date, it would not, in contrast to a pull date, make allowance for the product to be stored at home for a reasonable time before being used.

The most frequent incorrect interpretation given by shoppers, regardless of the income level of the neighborhood where they were interviewed, was that the date indicated the length of time the product had been in the store. Among other incorrect interpretations, shoppers in higher income areas were more likely to mention the end of product freshness or usefulness, while shoppers in low-income sections were more apt to mention age of the product. As shown in table 2, almost half the shoppers in middle-income neighborhoods cited knowledge of product freshness, in contrast to a third in each of the other areas.

2/ Further discussion of the findings is based on the results of these 429 in-depth interviews.

Table 2.--Shoppers' interpretations of the phrase, "freshness codes," 18 food stores, three income areas, Chicago, Ill., spring 1971

Interpretation of date	Number				Percent			
	Total	Income area			Total	Income area		
		Low	Middle	Higher		Low	Middle	Higher
Last day product can be sold by store	84	29	26	29	20	19	19	20
How fresh the product is	165	49	66	50	38	33	49	35
How old the product is	76	28	23	25	18	19	17	17
When the product was delivered to the store or put on display	117	36	39	42	27	24	29	29
How long the product will be fresh or usable	93	33	26	34	22	22	19	24
Product is safe	27	15	9	3	6	10	7	2
Total interviews1/	429	150	135	144				

1/ Will not add to total interviews because of multiple answers.

The wide distribution of interpretations of freshness codes and, more importantly, the conflicting meanings among shoppers, indicate a fairly broad misunderstanding of open dates. Although most shoppers did associate the dates with a time period and some measure of product freshness, a specific appropriate interpretation of the dates was lacking. The broad spectrum of answers appears to indicate that the date gives an impression of freshness, regardless of whether the shopper examines it closely. The shopper may simply be reacting to the readability of the date--assuming that the item must be fresh since there is no elaborate code. By using open dates instead of secretive codes, the retailer may be promoting consumer assurance that the product is fresh.

Overall, 38 percent of those interviewed said they initially learned about the freshness code program through the newspaper, and 29 percent first heard about it in the store. However, answers varied widely among shoppers in different neighborhoods, as shown in table 3.

Table 3.--How shoppers first learned about freshness codes, 18 food stores, three income areas, Chicago, Ill., spring 1971

Source of information	Total	Income area			Total	Income area		
		Low	Middle	Higher		Low	Middle	Higher
	Number				Percent			
In store	124	54	33	37	29	36	24	25
Radio-TV	76	33	20	23	18	22	15	16
Newspapers	162	41	58	63	38	28	43	44
Friends	22	8	7	7	5	5	5	5
All others	45	14	17	14	10	9	13	10
Total	429	150	135	144	100	100	100	100

Use of Freshness Codes

Of the 429 shoppers interviewed in depth about the freshness code program, 270 (63 percent) had used the date information at least once. A slightly larger share of shoppers in middle-income neighborhoods had used the dates than those in low- or higher income neighborhoods. Three-fourths of those who had used codes said they did so frequently--that is, once a week or more, or on every shopping trip. More than one-third of shoppers in each neighborhood reported they used freshness codes each time they shopped.

When each shopper was asked to list specific items for which she had used freshness codes, more than three-fourths of shoppers in higher income areas and about two-thirds of those in the other areas mentioned only one or two items. Thirty-one percent of shoppers in low- and middle-income areas reported using codes for three or four items, while only 22 percent in higher income areas did so. Very few shoppers mentioned more than four items, and none named more than six.

Among those who had used freshness codes at least once, more than a third said they had used date information on bread, and almost as many mentioned milk. In addition, 29 percent used dates on other dairy products (sour cream, cottage cheese, etc.) and refrigerated dough products, while 23 percent mentioned eggs. In other words, these five groups--bread, milk, other dairy products, refrigerated dough products, and eggs--accounted for 70 percent of the 581 reported instances of use of freshness codes.

The products for which shoppers used freshness codes varied somewhat in the three income areas. For example, 36 percent in higher income sections reported using dates on milk, compared with less than 33 percent in the other two areas. In contrast, 35 percent of middle-income area shoppers reported using codes for other dairy products, while only 25 percent in the other two neighborhoods used them.

Thirty-five percent of shoppers in low-income neighborhoods who had used freshness codes reported using dates on refrigerated dough products, compared with 22 and 31 percent, respectively, in middle- and higher income areas. For eggs, a fourth of low- and middle-income area shoppers reported using date information, as did 20 percent of those in higher income areas. (See table 4 for more details on product use by income area.)

In 97 percent of the instances of use of freshness codes, shoppers reported seeing a readable date on the food package. This observation is generally correct for those products included in the freshness code program. However, such products as produce, canned vegetables, cereals, and frozen foods have codes instead of readable dates. Code interpretations for most of these items are available in the code book at each store's service desk. Despite the lack of an open date,

Table 4.--Shoppers' use of freshness codes, by products, 18 food stores, three income areas, Chicago, Ill., spring 1971

Product	Total shoppers who used freshness codes		Income area			Income area		
			Low	Middle	Higher	Low	Middle	Higher
	Number	Percent	Number			Percent		
Dairy products:								
Milk	88	33	30	27	31	32	31	36
Other	79	29	25	31	23	26	35	26
Bakery products:								
Bread	94	35	33	32	29	35	36	33
Other	21	8	5	9	7	5	10	8
Refrigerated dough products	79	29	33	19	27	35	22	31
Meat, poultry, fish:								
Fresh meat and poultry	32	12	11	11	10	12	12	12
Processed meat	27	10	9	13	5	10	15	6
Fish, fresh and processed	5	2	4	1	0	4	1	0
Eggs	63	23	24	22	17	25	25	20
Produce	25	9	10	9	6	10	10	7
Canned vegetables	10	4	6	3	1	6	3	1
Canned fruits and juices	11	4	7	3	1	7	3	1
Frozen foods	14	5	4	7	3	4	8	3
Cereals	7	3	1	3	3	1	3	3
Snacks	10	4	3	3	4	3	3	5
All others1/	15	6	5	5	5	5	6	6
Total shoppers2/	270		95	88	87			

1/ Includes cookies, coffee, bottled juices, delicatessen items, and dry foods such as cake mixes.

2/ Will not add to total interviews because of multiple answers.

For each item mentioned, the shopper was asked what the date indicated about the product. The largest share--about 23 percent--reported that the date represented the day after which the product should not be used, and 20 percent said that the date reveals the freshness of the product. Thirteen percent said the date indicates about how long the product had been in the store or on display, while 14 percent believed it represented the date of manufacturing or packaging or the age of the product. Only 12 percent correctly identified the date as the last day to sell the product.

The responses associated with specific items varied somewhat. The five products mentioned most frequently--bread, milk, other dairy products, refrigerated dough products, and eggs--are discussed below.

Bread.--Ninety-four shoppers, or more than a third of those who said they had used freshness codes, mentioned bread when asked about specific products. Other bakery products, such as rolls and pastries, were mentioned by 21 shoppers.

Nearly all those who mentioned bread said there was a readable date on the package; about 80 percent said the date information was given on a plastic tab or on the closing end of the package. Responses varied only slightly among shoppers in different income areas. Most shoppers noticed the date information while in the store, but shoppers in low-income areas were a little more likely to first notice the date at home than shoppers in the other neighborhoods.

Overall, a third of the shoppers said the date indicated the product was fresh, but there was wide variation among shoppers in different income areas, as shown in table 5. Delivery date was mentioned more frequently for bread than for any other product.

Table 5.--Bread: Information provided by date on package, reported by shoppers in 18 food stores, three income areas, Chicago, Ill., spring 1971

Information provided by date	Total reporting	Income area		
		Low	Middle	Higher
	Number	Percent		
Last day product can be sold	10	18	0	14
Last day product can be used	5	6	6	3
How fresh the product is	32	34	43	25
How old the product is	13	12	9	21
When the product was delivered or displayed	25	21	27	31
All others	9	9	15	6
Total	94	100	100	100

When asked how date information influenced their use of items, about one-fourth of the shoppers said there was no influence; shoppers in higher income areas (31 percent) were most likely to give this response. About one-third of shoppers in low-income neighborhoods said the date influenced how long they would keep bread at home, and the same proportion of middle-income area shoppers said they would use the item right away.

Since answers given by shoppers to specific questions on their use of date information for other bakery products were similar to those given for bread, they do not warrant separate discussion.

Milk.--Milk was also named frequently by shoppers who cited a specific product. A third of those reporting the use of freshness codes had used date information for milk. Although milk sold in the grocery chain does not have a readable date on the carton, a four-digit code is stamped on the gable of each carton. Placards at the dairy case explain that two digits of the code represent the last day of sale in the city of Chicago, and the other two digits represent the last day of sale in suburban jurisdictions. Ninety-five percent of those who named milk incorrectly reported that there was a readable date on the milk carton; most of these shoppers, however, mentioned the correct location of the date on the top of the carton. While most shoppers in all income areas noticed the date while in the store, nearly 20 percent of low- and middle-income neighborhood shoppers said they first noticed the date at home.

Shoppers' answers to what the date told them about an item varied more widely for milk than for any other product. For example, the most frequently mentioned answer--the product is fresh--was given by only 15 percent of shoppers. Fourteen percent reported the date notes the last day the product should be used; 11 percent believed it to be the last day the product can be sold; and 14 percent the date the milk was delivered to the store or put on the shelf. The answer most frequently given by shoppers in higher income areas was that the date indicates the freshness of the milk when stocked. Table 6 shows a breakdown of answers by income area.

Responses on milk were similar to those on bread in that the largest share of shoppers--about one-fifth--said the date did not influence their use of the purchased milk. In contrast to the answers given for bread, however, shoppers in low-income areas were most likely to give this reply. Shoppers in middle-income neighborhoods reported that the date would encourage them to use the milk immediately. In higher income neighborhoods, shoppers said they would not purchase milk unless they were assured by the date that it was fresh.

Table 6.--Milk: Information provided by date on package, reported by shoppers in 18 food stores, three income areas, Chicago, Ill., spring 1971

Information provided by date	Total reporting	Income area		
		Low	Middle	Higher
	--Number---	----------Percent----------		
Last day product can be sold ..	12	10	7	25
Last day product can be used ..	12	13	15	14
How fresh the product is	13	18	22	7
How fresh when stocked	7	3	4	18
How old the product is	14	20	11	17
Product will be fresh for a few days	6	7	7	7
When the product was delivered or displayed	12	13	22	6
All others	10	16	27	9
Total	86	100	100	100

Other Dairy Products.--Sour cream, cottage cheese, and other fresh dairy products were mentioned by 29 percent of shoppers who used freshness codes. Most shoppers reported there was a readable date on these items and that they generally noticed the date while in the store--responses similar to those about the other food items.

Shoppers most frequently (22 percent) interpreted the date on these dairy products to be the last day the product can be used. Information on the freshness of the item was cited by 19 percent, and 10 percent said the date indicates when the product was packaged.

About 20 percent reported the date
because they would not purchase an ite
cent said they would use the item befo
the package, and almost as many said t
percent said the date did not influenc

Refrigerated Dough Products.--Sev
those who said they had used the date
dough products. These products, unlik
code program, have been marked with a
In most instances, the manufacturer ha
and a statement that the item should b
maximum quality. Apparently, most wor

the instructions because two-thirds said the date represents the last day the item should be used. This was the single most frequent answer given for any product. All the shoppers said the package was dated and that they noticed the date while they were in the store. Also, most reported they had found the date on the metal end of the can.

Interpretation of dates varied somewhat by income area. Sixty-nine percent of middle-income and 67 percent of higher income area shoppers said the date indicated the last day the product should be used. In contrast, although 59 percent of shoppers interviewed in low-income areas mentioned this factor, they also noted that the date meant that the item was fresh, or would be fresh for a few more days. About half the shoppers in each neighborhood said they would use the item before the expiration of the marked date. Another 11 percent reported that the date influenced how long they would keep the item.

Eggs.--About one-fourth of the shoppers who had used freshness codes specifically mentioned eggs. Nearly all shoppers said there was a readable date on the package, and most said they noticed the date while in the store. Interpretations varied among the neighborhoods. For example, 26 percent of shoppers in low-income areas said the date indicated the last day of sale, whereas 35 percent of higher income area shoppers believed the product should not be used if the date shown had passed. The answers of middle-income area shoppers were about evenly divided between the date indicating the last day of use and that the item is fresh. When asked how the date influenced their use of eggs, about 20 percent of the shoppers replied there was no influence, and about 33 percent said the date did influence them because they would either use the eggs immediately or use them before the passing of the marked date.

Other Products.--As noted earlier, 270 shoppers said they had used the freshness codes at least once. Since many shoppers mentioned more than one item, 581 instances of use of freshness codes were tabulated. More than 70 percent of these reported instances of use involved the five specific product groups discussed above. The remaining percentage was distributed among all other products such as fresh meat and poultry (6 percent); processed meats (5 percent); produce (4 percent); and snacks, canned vegetables, canned fruits and juices, and frozen foods (2 percent each). Hence, freshness code use for these items was mentioned by 10 percent or less of the shoppers who had ever used the codes (table 4, page 10). Although there were only a few shoppers who mentioned each of these other item groups, there were always variations in the way shoppers interpreted the code meaning. For instance, of the 32 shoppers who mentioned using freshness codes for fresh meat or poultry, eight said the date indicates the product freshness; twelve said it is the date of cutting and/or packing; five believed it to be the last permissible day of sale; four viewed it as the last day the product should be used; one mentioned age of the product; and two said they did not know the meaning of the date.

In addition, item groups which are not open dated were mentioned. For example, 24 shoppers who said they had used freshness codes for either fresh vegetables or fruits, said that there was a readable date on the package. At the time of this survey, however, none of the fresh produce items sold in the grocery chain stores had readable dates on the packages.

In contrast, some less perishable items which are open dated were rarely mentioned. For example, only one shopper mentioned cookies, three named coffee, and four mentioned cake mixes, gelatin, or other dry mixes. The tendency for most shoppers to use freshness codes for highly perishable products--even though many less perishable products were also open dated--implies that shoppers are more concerned about some indication of freshness on products with a relatively short shelf life.

Use of Freshness Code Book

In addition to questions on their use of dates for specific products, the 429 shoppers interviewed were queried on their awareness and use of the code book available at the service desk in each store. Although about 20 percent of the shoppers said they were aware of the code book, less than a third of these replied that it gave code explanations when they were asked about the type of information given in the book. The largest share said they did not know what information was in the book; other answers included price, ingredient, or product use information. Only 2 percent of the shoppers had ever used the code book. Of the nine women who reported using the code book, six were interviewed in low-income areas, and three at middle-income area stores. Most of them had used it only once or twice.

Advantages and Disadvantages of Program and Recommended Improvements

When asked to cite advantages of the open dating program, half the shoppers interviewed3/ said that product freshness is the primary advantage. All other possible advantages were noted much less often. For example, the second most frequently mentioned advantage--that open dates prevent the grocer from selling overaged foods--was mentioned by only 12 percent of the shoppers. The emphasis on freshness as an advantage seems to reinforce the earlier inference that open dates are more beneficial than cryptic codes because the consumer believes the store management is willing to provide information on the products to assure her of their freshness.

The advantages cited, however, varied among neighborhoods (see table 7). In the middle-income areas, product freshness and preventing the grocer from selling spoiled foods were the only advantages mentioned by 10 or more shoppers. In higher income areas, 12 percent cited the advantages of knowing how soon the product should be used and the grocer being prevented from selling spoiled foods. Although fewer than 10 percent of all shoppers noted such advantages as stock rotation, increased confidence in the store, and age of product, low-income area shoppers were more likely to mention these. Only two shoppers, both in low-income areas, noted that dates were an advantage in rotating food at home.

3/ All the shoppers interviewed, regardless of whether they had used freshness codes, were asked to cite advantages and disadvantages of the program and to suggest improvements.

Table 7.--Most frequently mentioned advantages of freshness codes, according to shoppers, 18 food stores, three income areas, Chicago, Ill., spring 1971

Advantage	Total	Income area			Total	Income area		
		Low	Middle	Higher		Low	Middle	Higher
	Number				Percent			
Product freshness	233	80	81	72	54	53	60	50
Prevent grocer from selling spoiled food	52	17	18	17	12	11	13	12
Know how soon product should be used	39	13	9	17	9	9	7	12
Know age of product	28	15	5	8	6	10	4	6
Know length of time product has been on shelf	27	11	8	8	6	7	6	6
Promote confidence in store	26	13	6	7	6	9	4	5
Guarantee product freshness	24	5	8	11	6	3	6	8
Rotating stock in store	20	10	3	7	5	7	2	5
Total interviews1/	429	150	135	144				

1/ Will not add to total interviews because of multiple answers.

Nearly 80 percent of those interviewed reported no disadvantages of the freshness code program. Slightly less than 10 percent mentioned that the dating program could incur additional costs for the store--either in product waste or in inherent costs of time and equipment to imprint the date. Shoppers in higher income areas were somewhat more likely to mention store costs than those in the other two neighborhoods. Other possible disadvantages were mentioned infrequently.

Each shopper was asked to recommend possible improvements in the freshness code program. About 45 percent of those interviewed had no suggestions, with shoppers in middle-income areas being least likely to offer recommendations. The most frequently suggested improvement--that of eliminating code books--was mentioned by 14 percent of those interviewed. The suggestions, however, varied among shoppers in different neighborhoods. For example, the recommendation of more products having dates was given by 15 percent in low-income areas, 10 percent in middle-income areas, and only 4 percent in higher income areas. In contrast, 19 percent of the latter group suggested elimination of code books, compared with only 12 percent in the other two areas. Other suggestions--simpler codes, more legible codes, and more company promotion of codes--were mentioned by less than 10 percent of shoppers and were named by about the same share of shoppers in each neighborhood.

In-Store Effects of Freshness Code Program

Managers of the 18 sample stores in the survey were interviewed to determine in-store effects of the program and to learn their personal reactions to open dating. In some cases, the managers interviewed had not been assigned to the sample store for the duration of the study, but all had other managerial positions so their experiences were similar.

Easier stock rotation was the advantage mentioned most frequently by the store managers. Ten managers, three each from low- and middle-income and four from higher income areas, noted that codes were as difficult for clerks as for customers. They noted that open dates make it possible for employees to readily check the freshness of products. Four managers, representing stores in all neighborhoods, listed increased consumer confidence in the store as the only advantage, while three believed their customers were able to buy fresher products because of open dating. Three managers saw no advantage at all because codes had always been followed. In response to a question on disadvantages from their point of view, half the managers said, "None." Eight managers expressed concern that consumers might sort through displays and look for the freshest products, but most said that this problem had not materialized because their customers had confidence in their store. Receiving short coded products from the warehouse and having to order more carefully were also mentioned.

From a consumer's standpoint, most managers said knowledge of freshness and the shopper's resultant confidence in the store were the most important advantages of the freshness code program. Some also mentioned that shoppers

are assured of buying fresher products because open dates encourage store personnel to rotate products. Two managers said they saw no consumer advantages, with one adding that he saw no advantage to the consumer because he believed that 90 percent of shoppers do not understand open dates and think they represent the last date of consumption rather than the last day of sale. Only one manager mentioned easier rotation of food in the home as an additional advantage.

About two-thirds of the managers reported that there were no disadvantages of the program for consumers, since open dates would help consumers who use them. Three said that one possible disadvantage is the misunderstanding some shoppers have of dates--particularly about the at-home shelf life built into products. Seldom mentioned was the possibility of higher prices or out-of-stock situations if shoppers did too much searching through shelves.

When asked if a "freshness code book" was available, all but one of the managers replied that it was located at the service desk. The exception was a manager who had only been at his present store for 5 weeks; he assumed there was one available although he had never seen it. Responses to "How often has the book been used by shoppers?" ranged from "Never" in higher income stores to "Three-four times a day" in a low-income neighborhood.

According to the managers, reactions of customers in different stores varied widely. In only four instances did the managers indicate that the customers reacted enthusiastically to the open dating program. Most of the other managers said there seemed to be little reaction which they generally attributed to customers' confidence in the grocery chain. In stores in low-income areas, three managers believed their shoppers assumed products were fresh because the chain had a good reputation for quality. The others thought their customers liked the program, although one said his evaluation was based on the lack of unfavorable comments.

In middle-income neighborhoods, two managers said their customers have confidence in the company and are somewhat aware of product freshness and codes. Three managers said there was little reaction among customers, and another said his customers "love it" and exclaim, "It's about time!"

In higher income area stores, two managers said their customers seem to like the idea of freshness codes. Another noted that shoppers seemed much more aware of codes and the code book when the program was first introduced and that their interest had since waned. Managers of the remaining three stores surveyed said their shoppers' interest was slight, generally because they trust the reputation of the store.

When asked if any customers had returned products they had purchased because of date expiration, five managers in higher income area stores reported no returns. The sixth said one shopper had brought back a breakfast cereal product because she had interpreted the date of packaging as an expiration date. Four of these six managers also said they had not had any instances of shoppers calling attention to out-of-date products on the shelves. The other two managers reported two such instances involving yogurt and eggs.

In middle-income areas, three managers reported having one instance of a customer finding an out-of-date product--the items involved were cottage cheese, eggs, and cream cheese. When asked if customers had returned products, managers generally said "no." Some did mention occasional instances of out-of-date dairy products or other refrigerated products being returned, but that these were brought back because they were spoiled--not solely because of the date expiration. One manager noted that he had fewer dairy products returned since open dating had been introduced.

Only one manager among those in low-income area stores reported an instance of a customer reporting an out-of-date item--eggs. The manager of another store in the area was the only one of the group who reported the return of products by customers. He stated that refrigerated dough products had been brought back because of date expiration.

When asked about improvements they would make in the food dating program, four managers cited the need for a uniform system of easy-to-read dates on all products, regardless of manufacturer. Three managers suggested mechanical improvements in the dates, such as larger type and date on top of package. Five said they would like to see more suppliers introduce open dating; three of these thought perishable foods in particular should be dated. Two managers expressed their concern that customers did not understand dates and that more education was needed on the "at home" shelf life built into the products. Another stated that since handling is so important to freshness, good practices should be emphasized among food handlers. The remaining managers interviewed had no improvements to make in the current program.

Because there is little research information available on the possible cost of open dating for retailers, an attempt was made to collect data to determine the economic effects of readable dates. Delivery and withdrawal records for several items of varying degrees of perishability--both coded and open dated--were kept over 3 months in the sample stores. However, due to the lack of a base period before the introduction of open dating, the findings were not conclusive. To provide the necessary information on costs, further research was undertaken with another company that wished to test and evaluate an open dating program. Data on price reductions and product waste for several items before and during an experimental open dating program should provide more precise answers on economic effects.

APPENDIX A

Private Label Products Included
in Jewel's Open Dating Program
as of February 1971

Product	No. of Items
1. Eggs	6
2. Butter	6
3. Margarine	2
4. Fresh orange juice in cartons	1
5. Refrigerated desert topping	1
6. Refrigerated coffee whitener	3
7. Refrigerated dough products	3
8. Cheese, sliced processed American	4
9. Cheese, sliced natural	11
10. Cheese, chunk natural	11
11. Cheese, cream	2
12. Deli salads and puddings	5
13. Cake mixes	3
14. Brownie mix	1
15. Pancake mixes	2
16. Gelatin mixes	15
17. Instant breakfast	5
18. Instant coffee	2
19. Ground coffee	12
20. Tea bags	2

Product	No. of Items
21. Vanilla extract	1
22. Pancake syrup	1
23. Nuts and peanuts	2
24. Cookies and crackers	14
25. Potato chips, pretzels, corn chips	13
26. Cottage cheese	4
27. Sour cream	2
28. Sour cream dip	2
29. Sour half & half	2
30. Bread	2

Public Brand Products With Open Dates
in Jewel Stores, February 1971

31. Refrigerated dough products	13
32. Butter	2

APPENDIX B

Interviewer:_____

OMB No. 40-S710006
Expires June 30, 197]

Store:_____

Date :_____

Time :_____

JEWEL FOOD DATING SURVEY

I. Screening Questionnaire

1. Have you visited a Jewel food store during the past two weeks?

(1)_____No. (Conclude interview)

(2)_____Yes. (Continue interview)

2. Where do you usually do most of your grocery shopping?

(1)_____One store other than Jewel

(2)_____More than one store other than Jewel

(3)_____Store where interviewed

(4)_____Another Jewel store

(Specify)_____

(5)_____More than one store, including Jewel

(If (3), (4), or (5) above is checked ask Q. 3.)

3. How long have you been doing most of your shopping at Jewel?

(1)_____Less than one year

Why do you now do most of your grocery shopping at a Jewel?

(2)_____One to five years
(3)_____More than five years

4. Are you now, or have you in the last year, been a Jewel employee?

_____Yes. (Conclude interview.)
_____No.

5. Are you or are you not familiar with, or aware of, any of these consumer information programs in the Jewel Food Stores?

(1)_____Compar-A-buy (unit pricing)
(2)_____Freshness codes (readable dates on products)
(3)_____Phosphate content of detergents

(If respondent is not familiar with freshness codes, conclude interview. If she does know about them proceed to complete interview in mobile research unit.)

II. Food Dating Questionnaire

6. When we asked you outside about Jewel's consumer programs, you said that you were familiar with their "freshness codes"--the readable dates on products. Would you tell me what the phrase "freshness codes" means to you?

7. How did you first find out about the "freshness code"?

(1)_____In store

(2)_____Radio or TV

(3)_____Newspaper advertising

(4)_____Newspaper, other than ads

(5)_____Friends

(6)_____Other
(Specify)_____

8. Have you used any of the "freshness codes"?

(1)_____No. (If no, go to Q. 23.)

(2)_____Yes. (If yes, go to Q. 9.)

9. How often would you say you use them?

Record answers below for Questions 10 to 16.

10. What products have you used them for?
11. Was there a readable date on the package?
12. (IF "YES", ASK:) Where was it shown on the package?
13. Did you notice the date in the store or after getting it home?
14. (IF "NO" Q. 11, ASK:) Where did you get that information, the date?
15. What did the date or code tell you about the product?
16. How did this influence your use of the product?

Question 10	Question 11		Question 12	Question 13	Question 14	Question 15	Question 16	Codes
What products?	Yes 1	No 2	Where on package?	When noticed	Code source	What did date tell you?	Influence of date on use of product	
	Circle one							Q. 11
	1	2						(1) Yes
	1	2						(2) No
	1	2						Q. 12
	1	2						(1) Don't remember
	1	2						(2) Open end - no code
	1	2						
	1	2						Q. 13
	1	2						(1) In store
	1	2						(2) At home
	1	2						(3) Other, specify
	1	2						Q. 14
	1	2						(1) Placard
	1	2						(2) Code book
	1	2						(3) Store personnel
	1	2						(4) Couldn't get
	1	2						(5) Don't know
	1	2						(6) Other, specify
	1	2						Q. 15, 16
								Open end - no code

17. Are you or are you not aware of the code book which is available at the service desk?

(1)_____No. (If no, skip to Q. 23.)
(2)_____Yes.

If yes--

18. Have you ever used this code book?

(1)_____No.

If no--
Do you know what kind of information is in the book?

(1)_____No. (If no, skip to Q. 23.)
(2)_____Yes. (Ask the following question and skip to Q. 23.)
Do you know what information is given in the code book?

(2)_____Yes

If Yes to Question 18

19. How often have you used the code book?

Record below answers for Q. 20, 21, 22.

20. What products have you used it for?
21. What information was given?
22. What did this tell you about the product?

Question 20: Product	Question 21: Information shown in code book	Question 21: What did information tell about product?

All respondents who are aware of the system:

23. What advantages, if any, do you see in Jewel's open dating program?

24. What disadvantages, if any, do you see?

25. What improvements, if any, would you make in the program?

To help us group the information you and other shoppers have given us, we'd like to know a little about you and your family:

26. How many people including yourself do you usually buy food for?

(1)_____One

(2)_____Two

(3)_____Three - four

(4)_____Five or more

27. How much do you usually spend for groceries each week?

(1)_____$20 or less

(2)_____$21 - 30

(3)_____$31 - 40

(4)_____$41 - 50

(5)_____$51 - 60

(6)_____$61 or more

28. About how far (blocks or miles) do you live from this store?

(1)_____Block(s)

(2)_____Mile(s)

29. Are you presently employed outside the home?

(1)_____No

(2)_____Yes

- -

30. Would you indicate for me which category on this card best describes your approximate yearly family income?

(1)_____Under $6,000

(2)_____$6,000 - $11,999

(3)_____$12,000 - $19,999

(4)_____$20,000 or over

31. Would you indicate for me which category on this card best describes your age?

(1)_____Under 25

(2)_____25 - 34

(3)_____35 - 44

(4)_____45 - 54

(5)_____55 and over